#### APPENDIX A 1996 U.S.G.S. WATER QUALITY DATA 1999 NDEP FIELD NOTES AND ANALYTICAL RESULTS

#### Field Screening of Water Quality, Bottom Sediment, and Biota Associated with Irrigation Drainage In and Near Walker River Indian Reservation, Nevada, 1994-95

By Carl E. Thodal, U.S. Geological Survey, and Peter L. Tuttle, U.S. Fish and Wildlife Service

U.S. GEOLOGICAL SURVEY

Water-Resources Investigations Report 96-4214

U.S. Geological Survey U.S. Fish and Wildlife Service Bureau of Indian Affairs and Bureau of Reclamation



Carson City, Nevada 1996

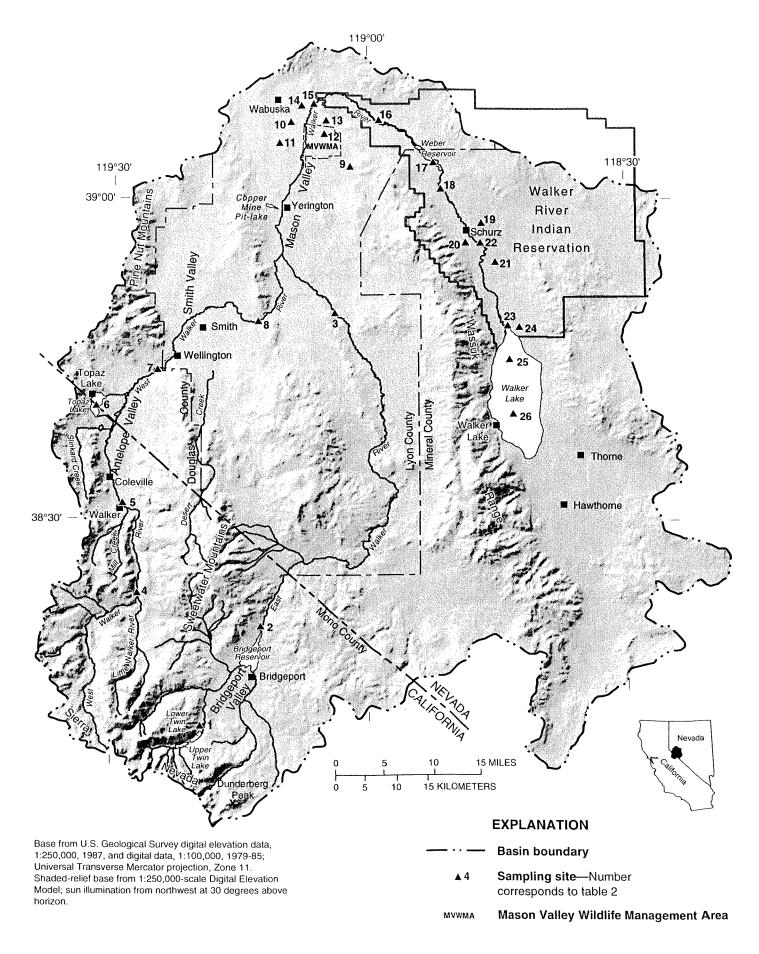


Figure 1. Location of sampling sites in Walker River Basin, Nevada and California, 1994-95.

**Table 7.** Field measurements of physical properties and chemical constituents in surface-water samples from Walker River Basin, Nevada and California, 1994-95

[Abbreviations: ft³/s, cubic foot per second; µS/cm, microsiemens per centimeter at 25 degrees Celsius; °C, degree Celsius; mg/L, milligram per liter; --, no data available; <, less than]

Site no. (fig. 1)	Date	Discharge, instantaneous (ft <sup>3</sup> /s)	Specific conductance (µS/cm)	pH (standard units)	Water temperature (°C)	Oxygen, dissolved (mg/L)	Oxygen, dissolved (percent saturation
			Backgro	und Area			The state of the s
1	06-23-94	<sup>a</sup> 89	54	7.8	16.0	7.9	104
2	06-23-94	a <sub>127</sub>	230	8.6	19.0	6.4	87
3	06-28-94	75	276	8.2	25.0	7.2	103
4	06-24-94	<sup>a</sup> 242	56	7.7	10.0	9.0	101
5	06-24-94	<sup>a</sup> 254	61	7.7	14.0	8.3	99
6	07-26-94		151	6.9	22.5	8.9	122
7	06-29-94	238	168	8.9	23.5	8.1	114
8	06-29-94	120	250	8.1	19.0	7.5	96
			Mason	n Valley			
9	06-22-94	.04	250	8.2	24.0	6.6	93
10	06-15-94	1.5	401	8.5	18.0	10.4	130
11	06-13-94	.17	521	8.5	20.0	12.8	167
12	06-15-94		660	8.7	24.5		
13	06-14-94	.04	739	8.5	23.5	14.0	196
14	06-13-94	2.6	438	8.6	23.5	9.1	128
15	06-14-94	29	338	8.1	16.0	8.1	98
			Walker River I	ndian Reservatio	on		
16	07-21-94	20	292	8.1	26.0	8.7	127
17	07-28-94		487	8.4	28.0	5.3	80
18	06-16-94	61	487	8.8	23.0	9.2	126
19	06-16-94	.05	483	8.5	17.5	8.3	101
	08-15-95	.3	187	8.1	20.0	8.7	113
20	07-25-94	.01	498	9.0	29.5	15.7	234
	08-15-95	<.01	204	7.8	17.0	4.9	60
21	06-17-94	.02	489	8.2	21.0	~~*	
22	07-15-94	<.01	927	7.6	23.0		
	08-15-95	150	270	0.8	22.0	6.5	88
23	08-31-94	.69	2,310	9.0	24.0	7.2	100
	08-14-95	60	328	7.4	22.5	7.1	96
24	08-31-94	.06	1,890	9.2	21.5		· -
			Wall	ker Lake			
25	07-29-94	~~	19,300	9.2	24.0	6.1	91
26	07-29-94	m m	19,300	9.2	17.0	3.0	39

<sup>&</sup>lt;sup>a</sup> Discharge determined from stage-discharge relation for established USGS stream-gaging station.

 Table 8. Water hardness and concentrations of major dissolved chemical constituents in surface-water samples from Walker River Basin, Nevada and California, 1994-95

[Abbreviations: mg/L, milligram per liter, °C, degree Celsius]

į		Hard-	Calcium,	Magnesium,	Sodium,	Potassium,	Alkalinity	oje ne dreede	400	Sulfate,	Chloride,	Fluoride,	Silica,	Solids, dissolved,
no. (fig. 1)	) Date	(mg/L as CaCO <sub>3</sub> )	(mg/L as Ca)	(mg/L as Mg)	(mg/L as Na)	(mg/L as K)	(mg/L as	(mg/L as HCO <sub>3</sub> )	(mg/L as CO <sub>3</sub> )	(mg/L as SO <sub>4</sub> )	(mg/L as CI)	(mg/L as F)	dissolved (mg/L as SiO <sub>2</sub> )	at 180°C (mg/L)
							Reference Area	hrea						
	06-23-94	21	7.3	0.7	2.0	9.0	21	25	<u>^</u>	4.8	0.4	0.2	5.0	40
7	06-23-94	71	21	4.5	19	3.5	92	110	6	16	3.2	ιi	16	151
l m	06-28-94	85	25	5.3	22	4.2	106	129	< <sub>1</sub>	23	4.4	4.	17	173
4	06-24-94	18	5.3	1.2	4.3	κi	24	29	7	2.6	o;	v:1	7.4	35
v	06-24-94	20	5.8	1.2	4.6	9.	25	30	7	2.8	1.6	-:	8.5	34
9	07-26-94	47	13	3.5	11	1.9	99	80	7	4.9	4.9	κì	2.5	84
) <b>(</b> ~	06-29-94	47	13	3.6	14	1.8	63	29	5	8.0	7.1	4.	2.8	93
∞	06-29-94	69	19	5.2	23	2.9	95	116	<b>√</b>	18	9.2	λ	7.8	146
							Mason Valle	ley						
σ	106-22-94	99	19	4.5	21	3.3	06	110	^1	17	8.8	'n	7.1	136
7 2	06-15-94	120	9	5.8	32	5.8	108	127	7	72	12	9.	13	268
7 =	06-13-94	160	45	11	50	0.9	200	210	17	99	17	<i>L</i> :	30	348
12	06-15-94	180	51	12	98	11	318	329	29	77	16	2.2	30	476
1 2	06-14-94	230	70	14	76	8.8	210	242	7	130	25	1.5	23	514
, -	06 12 04	0.7	28	9.9	22	8.3	140	171	12	54	17	1.1	27	302
14	06-17-94	3 2	53 53	7.1	32	3.5	132	161	۲ ۲	31	12	9:	16	170
CT	- 1	9				Walker	River Indian	1 Reservation						
·	21 04	68	23	5,9	29	3.9	104	127	7	23	10	νj (	7,7	158
10	07 28 94	130	3 °C	9.0	48	6.1	174	198	7	4:	17	ه ند	16	296
~ <del>~</del>	06-16-94	140	40	9.5	50	5.7	176	209	12	51	17	∞i c	2 0	214
19	06-16-94	140	41	8.6	51	5.5	176	205	ი •	75	18	óω	0 7	121
ì	08-15-95	59	17	3.9	15	2.7	4 6	9 5	√ <del>-</del>	7 0	. ×	∞ ز	21	300
20	07-25-94	140	39	9.7	56	6.1	8/1	90	J 7	7 10	5.5	i u	16	122
	08-15-95	2	19	4.1	1/	6.7	00	90	7 '	3 1	i	i o	2 2	308
21	06-17-94	140	41	6.7	20	6.1	175	214	Ţ <sup>;</sup>	210	77	ó ∝	10 36	574
22	07-15-94	240	99	18	110	4.8	326	398	7 7	20	4, C L	jα	86	157
	08-15-95	98	25	5.7	22	3.5	104	171	\ - - -	02.6	730	<b>, ∧</b> j ⊂	5. 4.	1 450
23	08-31-94	80	17	0.6	510	20 ,	456	468	<del>,</del> 4	070	100	5. 4	19	177
	08-14-95	91	26	4.9	30	£.50 E.00	105	130 (a)	√e)	260	150	3.2	6	1,180
24	08-31-94	48	10	9.0	380	07	Welver I ake			ì				
			(	Ç	000	CCC	2 260		096	3 100	3.300	27	'n	13,600
25	07-29-94	720	9.8	170	4, 4 8, 5	210	3,200	2,030 2,440	672	3,000	3,200	56	∞.	13,300
76	07-29-94	730	8.4	1/0	4,100	210	7,170	£,1	1					
લ	Laboratory de	termination	of alkalinity or	<sup>a</sup> Laboratory determination of alkalinity only—field determinations not made.	minations not	made.								

**Sumental Protection** Nevada Division of F

## WATER SAMPLING RECORD

GPS Datapoint ID: 008 # GPS Unit:

F g

Project: Anaconda/Yerington

File No.: Div 50/ A-17

Temp 60°F Weather Conditions: Clode, Swow

Sampling Date: 11

1 16 99 US-EPA R-9 Laboratory Analytical Lab: US-EPA Location: 4.10 by 8 (<

SAMPLE ID* TIME (hrs) TEM  U) - S(L) (1) (2) (2) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1
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Nevada Division of L ... onmental Protection

WATER SAMPLING RECORD

**GPS Unit**:

GPS Datapoint ID: 009

Weather Conditions: しんけいい Project: Anaconda/Yerington File No.: Div 50/ A-17

11/16/99

US-EPA R-9 Laboratory Sampling Date: 11/16/9 Analytical Lab: US-EPAR Location: WARGUSKA

SAMPLE ID*	LE ID*	TIME (hrs)	TEMP (*/c)	Conduct (µ)	Hd	COMMENTS (odor, color, turbidity, depth, container volume, preservative)
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· Sample ID :	Sample ID = Media / Sampling Point ID / Site #	ling Point ID		ĺ		Sampling Team: (XT) (C)
MEDIA	SAMPLING POINT ID	POINT ID	SITE#	COSMIC DOOL		ars: GA
W water S soil	SB Soil E	Soil Boring Monitoring Welf Leachate Sample	001 002 003	en En	Signatuffer.	The Hard School of the School
		Surface Water Domestic Well		O POLICE OF THE	130 ON	Reviewed by:
		Vvater Suppry Pump-back Well				11

Nevada Division of E. ..onmental Protection

## WATER SAMPLING RECORD

GPS Datapoint ID: 0/ **GPS Unit:** 

Project: Anaconda/Yerington
File No.: Div 50/ A-17
Weather Conditions: Sund Clay Lang by Ede Location: Warsing Range Day

Sample ID = Media / Sampling Point ID / Site #  W. water M.S. Solid M.V. Survey (Section 2007)  Sample ID = Media / Sampling Point ID / Site #  W. water M.S. Sample ID Site #  W. water W.S. Sample ID Site #  W. water W.S. Sample ID Site #  W. Water M.S. Sample ID Site #  W. Water W.S.							
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Sample ID = Media / Sampling Point ID/ Site #  Water   Sampling Point ID/ Site #  Sampling Team: \$A CFL	,	•					)
ample ID = Media / Sampling Point ID / Site #  MEDIA SAMPLING POINT ID SITE #  Water NAV Monitoring Well 002  LY Ly Lysmeric Sample 003  LY Lysmeric Sample 004  Syn Surface Water 004  Down Down Domestic Well of Sample 104  NAV Water Sample 105  NAV Sample 105  Sampling Team: GA CFC	1						
Sample ID = Media / Sampling Point ID / Site #   Sampling Team: SAP CFL   KES	,	1					
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Samplers: CAA CECA KES Samplers: CAA  Samplers: CAA  Signature:  Signature:  Date: 11/16/93  Date:							
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Samplers: GA CFC KESS  Samplers: CA  Signature: Man  The montal to the series of the s							
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SAMPLING POINT ID SITE# OOD DIVISION Samplers: A Signature: A Signatur	ample ID =	Media / Samp	ing Point ID				
SB Soil Boring Well 002  LS Leachate Sample 003  LY Lysimeter 004  Sw Surface Water etc. Dwy World Well 002  Wys Water Stipply Well 004  Dwy Water Stipply Date:	MEDIA	SAMPLING	POINT ID	$\Box$	ODO DIVISIO		ers: A
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Nevada Division of E. ... onmental Protection

## WATER SAMPLING RECORD

GPS Unit:

GPS Datapoint ID: 🔼

Project: Anaconda/Yerington File No.: Div 50/ A-17

Sampling Date: 11/16/99

Analytical Lab: US-EPA R-9 Laboratory
Location: WARSINGKA DURIN # 4

Weather Conditions: Sun MU

SAME	SAMPLE ID"	TIME (hrs)	TEMP ("/c)	Conduct (n)	ā	COMMENTS (odor, color, turbidity, depth, container volume, preservative)
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# EPA REGION 9 LABORATORY-RICHMC ., CA SUMMARY OF ANALYTICAL RESULTS

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99321A 12/20/99 SDG: Date:

Metals Water Analysis: Matrix:

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Com- Comments refer to the corresponding section in the report narrative for each letter.

N/A - Not Applicable.

2 - Refer to data qualifiers. N/R - Not Required.

J - The parameter was analyzed for, but was not detected; The associated value is the sample detection limit, adjusted for dilution, if any.

- The associated value is an estimated quantity.